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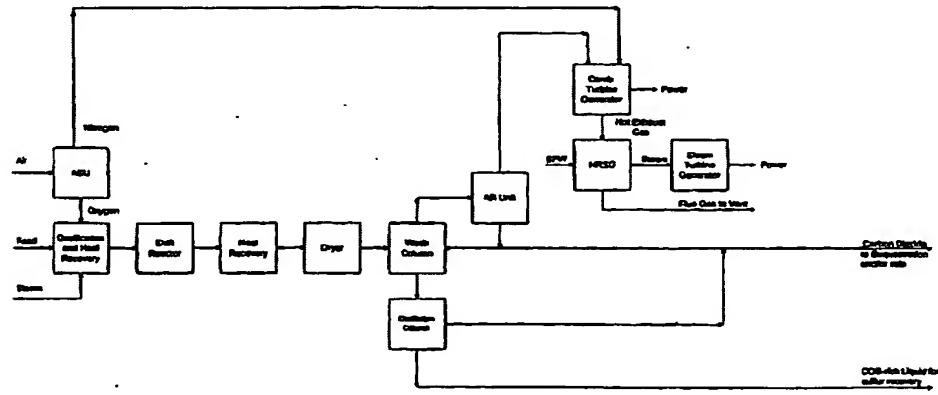
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(54) Title: CONFIGURATIONS AND METHODS OF CARBON CAPTURE



(57) Abstract: An IGCC plant has a precombustion decarbonization unit in which acid gas is removed from a combustion gas before the combustion gas enters a combustion turbine. In one preferred configuration, a sulfur removal unit removes hydrogen sulfide from a feed gas before the desulfurized feed gas enters an autorefrigeration unit in which carbon dioxide is removed. In another preferred configuration, hydrogen sulfide is converted to carbonyl sulfide in a dryer, and the carbonyl sulfide is absorbed in the liquid carbon dioxide that is prepared from the feed gas using autorefrigeration.

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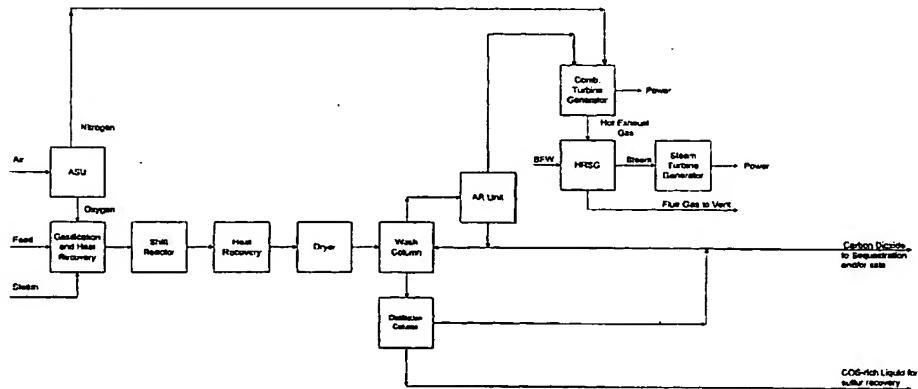
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**INTERNATIONAL SEARCH REPORT**

International application No.

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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C10K 3/00  
US CL : 48/128

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 48/128

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,240,476 A (HEGARTY) 31 August 1993 (31.08.1993)	1-21
A	US 4,957,515 A (HEGARTY) 18 September 1990 (18.09.1990)	1-21
A	US 4,714,480 A (WANSINK) 22 December 1987 (22.12.1987)	1-21

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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

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